



MATERIAL SAFETY DATA SHEET

PRODUCT SOLUTION S0229 0.0172N AGNO3

Emergency Telephone Number

Medical (708) 920-1510 (24 hours)

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: SOLUTION S0229 0.0172N AGNO3

DESCRIPTION: 0.0172N aqueous solution of silver nitrate

NFPA 704M/HMIS RATING: 1/1 HEALTH 0/0 FLAMMABILITY 0/0 REACTIVITY 0 OTHER
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 2 HAZARDOUS INGREDIENTS

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section 14 for the nature of the hazard(s).

INGREDIENT(S)	CAS #	APPROX.%
Silver nitrate	7761-88-8	0.3

SECTION 3 PRECAUTIONARY LABEL INFORMATION

CAUTION: Do not take internally.

SECTION 4 FIRST AID INFORMATION

EYES: Flush with water for 15 minutes. Call a physician.

SKIN: Flush with water for 15 minutes.

INGESTION: Do not induce vomiting. Give water. Call a physician.

NOTE TO PHYSICIAN: No specific antidote is known. Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.

SECTION 5 HEALTH EFFECTS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin

EYE CONTACT: Can cause transient irritation.

SKIN CONTACT: Can cause transient irritation.

INGESTION: Can be harmful or fatal.

SYMPTOMS OF EXPOSURE: A review of available data does not identify any symptoms from exposure.



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SECTION 5 HEALTH EFFECTS INFORMATION

(CONTINUED)

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

SECTION 6 TOXICOLOGY INFORMATION

ACUTE TOXICITY STUDIES: No toxicity studies have been conducted on this product.

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Colorless	FORM: Liquid	ODOR: None
SOLUBILITY IN WATER: Completely		
pH (NEAT) = Neutral		
FLASH POINT: None		

NOTE: These physical properties are typical values for this product.

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: None

EXTINGUISHING MEDIA: Not applicable

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: None known

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion NO_x may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: Respiratory protection is not normally needed.

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a pressure-demand, self-contained breathing apparatus is recommended.

VENTILATION: General ventilation is recommended.

PROTECTIVE EQUIPMENT: Safety glasses should be worn when handling any liquid product,

If clothing is contaminated, remove clothing and thoroughly wash the



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SECTION 10 PERSONAL PROTECTION EQUIPMENT

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affected area. Launder contaminated clothing before reuse.

SECTION 11 SPILL AND DISPOSAL INFORMATION

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (708-920-1510)

SPILL CONTROL AND RECOVERY:

Small liquid spills: Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 14.

Large liquid spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 14.

DISPOSAL: If this product becomes a waste, it meets the criteria of a hazardous waste as defined under the Resources Conservation and Recovery Act (RCRA) 40 CFR 261. Hazardous Waste D011.

This solution contains Silver as Ag in an amount greater than the EPA toxic limit of 5.0 ppm.

As a hazardous liquid waste, it must be solidified before disposal in a landfill (Hazardous Waste Treatment, Storage and Disposal facility).

Empty product containers should be punctured, if plastic, and placed in the garbage collection container.

SECTION 12 ENVIRONMENTAL INFORMATION

If released into the environment, see CERCLA in Section 14.

SECTION 13 TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME/HAZARD CODE - PRODUCT IS NOT REGULATED DURING TRANSPORTATION

SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:



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SECTION 14 REGULATORY INFORMATION

(CONTINUED)

OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:

Based on our hazard evaluation, the following ingredient in this product is hazardous and the reason is shown below.

Silver nitrate - Irritant

Silver, soluble compounds as Ag = TWA 0.01 mg/m³ ACGIH/TLV

Silver (metal, dust, and fume, as Ag) = TWA 0.01 mg/m³ OSHA/PEL

CERCLA/SUPERFUND, 40 CFR 117, 302:

This product contains silver, a Reportable Quantity (RQ) substance and if 330 pounds of product are released, it requires notification to the NATIONAL RESPONSE CENTER, WASHINGTON, D. C. (1-800-424-8802).

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986

(TITLE III) - SECTIONS 302, 311, 312 AND 313:

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):

This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS

(40 CFR 370):

Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

- XX Immediate (acute) health hazard
- Delayed (chronic) health hazard
- Fire hazard
- Sudden release of pressure hazard
- Reactive hazard

Under Section 311, submittal of MSDS's or a list of product names to the local emergency planning commission, state emergency response commission and local fire department is required after October 17, 1987 if you have:

- 10,000 pounds or more of a hazardous substance, or
- 500 pounds or the threshold planning quantity, whichever is less, of an extremely hazardous substance.

After October 17, 1989, MSDS(s), or a list of product names for all hazardous substances between zero (0) and 10,000 pounds, not previously reported, must



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SECTION 14 REGULATORY INFORMATION

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be submitted.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):

This product contains the following ingredient(s), (with CAS # and % range) which appear(s) on the List of Toxic Chemicals.

Silver nitrate	7761-88-8	0.3
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TOXIC SUBSTANCES CONTROL ACT (TSCA):

The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:

If this product becomes a waste, it does meet the criteria of a hazardous waste as defined under RCRA 40 CFR 261 (consult Section 11).

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15

(formerly Sec. 307), 40 CFR 116 (formerly Sec. 311):

This product contains the following ingredient covered by the Clean Water Act:

Silver nitrate - Section 307, 311

CLEAN AIR ACT, 40 CFR 60, SECTION 111, 40 CFR 61, SECTION 112:

This product does not contain ingredients covered by the Clean Air Act.

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:

None of the chemicals on the current Proposition 65 list are known to be present in this product.

MICHIGAN CRITICAL MATERIALS:

This product contains the following substance(s) identified on the Michigan Critical Materials Register:

Silver nitrate

STATE RIGHT TO KNOW LAWS:

Regulated in those states using the TLV for silver nitrate as a criteria for listing.



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SECTION 15 ADDITIONAL INFORMATION

None

SECTION 16 USER'S RESPONSIBILITY

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations. Please consult your local sales representative for any further information.

SECTION 17 BIBLIOGRAPHY

ANNUAL REPORT ON CARCINOGENS, U.S. Department of Health and Human Services, Public Health Service, PB 33-135855, 1983.

CASARETT AND DOULL'S TOXICOLOGY, THE BASIC SCIENCE OF POISONS, Doull, J., Klaassen, C. D., and Admur, M. O., eds., Macmillian Publishing Company, Inc., N. Y., 2nd edition, 1980.

CHEMICAL HAZARDS OF THE WORKPLACE, Proctor, N. H., and Hughes, J. P., eds., J. P. Lipincott Company, N.Y., 1981.

DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS, Sax, N. Irving, ed., Van Nostrand Reinhold Company, N.Y., 6th edition, 1984.

IARC MONOGRAPHS ON THE EVALUATION OF THE CARCINOGENIC RISK OF CHEMICALS TO MAN, Geneva: World Health Organization, International Agency for Research on Cancer, 1972-1977.

PATTY'S INDUSTRIAL HYGIENE AND TOXICOLOGY, Clayton, G. D., Clayton, F. E., eds., John Wiley and Sons, N. Y., 3rd edition, Vol. 2 A-C, 1981.

REGISTRY OF TOXIC EFFECTS ON CHEMICAL SUBSTANCES, U.S. Department of Health and Human Services, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, 1983 supplement of 1981-1982 edition, Vol. 1-3, OH, 1984.

Title 29 Code of Federal Regulations Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA).

THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE



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SECTION 17 BIBLIOGRAPHY

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WORKROOM ENVIRONMENT WITH INTENDED CHANGES, American Conference of Governmental Industrial Hygienists, OH.

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